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Even Numbered Methylene-Linked LC Dimers in Magnetic Field<sup>1</sup> MATTHEW MURACHVER, S. M. SALIIL, CPIP & LCI, S. N. SPRUNT, J. GLEESON, Physics Department, Kent State University, A JAKLI, Chemi-Τ. cal Physics Interdisciplinary Program & Liquid Crystal Institute, Kent State Univ, Kent Ohio — Recently thermotropic liquid crystals composed of dimers with odd number methylene linkages showed an anomalously large (up to 13C in B=25T) increase of the isotropic nematic phase transition. <sup>[1]</sup> This shift is orders of magnitude higher than Landau theory with realistic physical constants would suggest. Motivated by these results, here we studied dimers with even numbered methylene linkages which exhibit a linear shape & nematic order. Even dimers contrast their odd-numbered counterparts in phase sequence & range of magnetic enhancement. We propose, in contrast with conventional calamitic nematogens, dimeric molecules have a rich spectrum of confirmations with varying magnetic susceptibility. Under high magnetic fields both ordered states & lower molecular bend angles are promoted. Research chemicals provided in collaboration with Georg Mehl (University of Hull) Gabi Tauba (Otto von Guericke University Magdeburg) Hao Wang (CPIP, KSU) Quan Li (CPIP, KSU)

<sup>1.</sup> Salili, S. M., Tamba, M.-G., Sprunt, S. N., Welch, C., Mehl, G. H., Jkli, A., and Gleeson, J. Physical Review Letters 116, (2016): 217801.

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